

Claims

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent is:

CROSS-REFERENCE TO RELATED APPLICATION

1. A liquid crystal display device which has first and second substrates disposed with a predetermined gap, and seals a liquid crystal in the gap, comprising:
 - 1 a seal member provided at the gap between said first and second substrates, said seal member being disposed outside a display area to seal said liquid crystal; and
 - 1 a wall-like structure disposed outside the display area and inside the seal member, said wall-like structure being made of a different material from that of said seal member and formed in plural rows.
2. The liquid crystal device according to claim 1, wherein said wall-like structure is composed of dashed rows having notches.
3. The liquid crystal device according to claim 1, wherein the notches of said wall-like structure are formed alternately in the plurality of dashed rows so that said seal material does not flow directly into said display area.
4. The liquid crystal display device according to claim 2, wherein a column-like structure for keeping the gap between said first and second substrates constant is

1 provided, and a shape of said wall-like structure is
2 determined based on a state of said column-like
3 structure.

1 5. The liquid crystal device according to claim 2,
2 wherein positions of the notches of the plural dashed
3 rows in said wall-like structure are determined based on
4 a position of a wiring formed either on said first
5 substrate or on said second substrate.

1 6. The liquid crystal device according to claim 1,
2 wherein said wall-like structure is formed to a height
3 lower than that of the gap formed between said first
4 substrate and said second substrate.

1 7. A liquid crystal display device which has a first
2 substrate and a second substrate disposed with a
3 predetermined gap, and seals a liquid crystal in the gap,
4 comprising

5 a seal member provided in the gap between said
6 first and second substrates, said seal member being
7 disposed outside a display area to seal said liquid
8 crystal in said gap; and
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10 a wall-like structure disposed outside said
11 display area and inside said seal member, said wall-like
12 structure being for preventing said seal member from
13 flowing into said display area.

1 8. The liquid crystal display device according to claim
2 7, wherein said seal member flows out in a fluidized

3 state when said second substrate is pressed into said
4 first substrate while heating said first and second
5 substrates, and said wall-like structure is capable of
6 stopping said seal member from entering said display
7 area, said seal member being in a fluidized state, and
8 permitting said liquid crystal to flow into outside the
9 wall-like structure when said liquid crystal flows out
10 from said display area.

1 9. The liquid crystal display device according to claim
2 7, wherein said wall-like structure prevents air traps
3 from occurring when said liquid crystal to be sealed
4 flows into said display area.

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10. A method of fabricating a liquid crystal display
device, comprising the steps of:
1 applying resin onto a first substrate, and
2 patterning said resin to form a frame-shaped wall-like
3 structure surrounding a display electrode;
4 arranging a second substrate so as to face said
5 first substrate on which said seal member is applied, and
6 pressing said second substrates to each other by said
7 seal material; and
8 injecting a liquid crystal into a gap between
9 said first and second substrates, which are adhered to
10 each other.

11. The method according to claim 10, wherein a column-
12 like structure for regulating a size of the gap between
1 said first and second substrates is formed together with
2 said wall-like structure by patterning.
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1 12 The method according to claim 10, wherein said wall-
2 like structure takes a frame-shaped structure composed of
3 a plurality of rows, each row showing a dashed line shape
4 have predetermined notches.

1 13 The method according to claim 10, wherein said wall-
2 like structure is formed by applying photosensitive resin
3 onto said first substrate, performing a UV exposure for
4 the resin using a photomask, and curing the resin.

1 14 The method according to claim 10, wherein an
2 alignment film is applied after the formation of said
3 wall-like structure, and then said seal member is applied
4 outside said wall-like structure.

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